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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,941	12/15/2003	Manoj K. Bhattacharyya	10014277-2	3729

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EXAMINER	
TSAI, H JEY	

ART UNIT	PAPER NUMBER
2812	

DATE MAILED: 03/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/735,941	BHATTACHARYYA ET AL.	
	Examiner	Art Unit	
	H.Jey Tsai	2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-20 and 22-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-20 and 22-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 13, 19, 23-24, 28, 30-38 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Tuttle 6,625,040, previously applied.

Tuttle '040 discloses a method for shielding a magnetic random access memory module from stray magnetic fields, comprising:

attaching a layer of electrically insulating material 20 (a resin, col. 4, lines 1-12,) adjacent a first side of magnetic memory array 12 in the memory module, fig. 1-4, col. 2, lines 40-67,

attaching a layer of permeable metal 22 or 33 or 55 over the insulating material (resin) 20 of first side of the magnetic memory array 12 (layer 22 can be formed over top surface 18 of layer 20, col. 3, lines 57-63), col. 3, lines 1-67, fig. 3-4

attaching a layer of permeable metal 55 or 22 over the insulating material 20 of second side of the magnetic memory array 12,

permeable metal magnetic shield is a soft magnetic material of iron and nickel alloy, para. 4, 30.

Claims 13, 19, 22-24, 28, 30-38 are rejected under 35 U.S.C. § 102(b) as being anticipated by Kitada et al. 5,337,203, newly cited.

Kitada discloses a method for shielding a magnetic memory module (col. 4, lines 55-57) from stray magnetic fields, comprising:

attaching a layer of electrically insulating material 5, 11 adjacent a first side of magnetic memory array 6, 7, 8, 9 in the memory module, fig. 7, col. 16, line 23 to col. 7, line 67,

attaching a layer of permeable metal 12 over the insulating material 11 of first side of the magnetic memory array, fig. 7,

attaching a layer of permeable metal 4 over the insulating material 5 of second side of the magnetic memory array, fig. 7,

sputtering the permeable metal magnetic shied material, col. 16, lines 40-43, col. 23, lines 48-55,

permeable metal magnetic shield is a soft magnetic material of iron and nickel alloy, col. 22, lines 31-35, col. 23, lines 48-55,

heat treating (annealing) the permeable metal NiFe, col. 6, lines 56-65, col. 10, lines 54-60.

Note: The intended use clause of using memory device as random access memory device found in the preamble is not found afforded the effect of a distinguishing limitation unless the body of the claim sets forth process or structure which refers back to, is defined by or otherwise draws life and breadth from the preamble. see In re Casey, 152 USPQ 235 (CCPA 1967); Kropa v. Robie, 88 USPQ 478 (CCPA 1951).

Claims 13, 19, 23-24, 30-38 are rejected under 35 U.S.C. § 102(e) as being anticipated by Tuttle 2002/0105058, newly cited.

Tuttle '058 discloses a method for shielding a magnetic memory module from stray magnetic fields, comprising:

attaching a layer of electrically insulating material 140/160 adjacent a first side of magnetic memory array in the memory module 102, fig. 6, para 21-25, ,

attaching a layer of permeable metal 113 over the insulating material 140/160 of first side of the magnetic memory array 300, fig. 6,

attaching a layer of permeable metal 110 over the insulating material (glass) of second side of the magnetic memory array, fig. 6,

permeable metal magnetic shield 113 is a soft magnetic material of iron and nickel alloy, para. 31.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 22 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Tuttle et al., 6,625,040 in view of Shimada et al. 4,641,213, previously applied.

The reference(s) teach the features :

Tuttle discloses a method for shielding a magnetic random access memory module from stray magnetic fields, comprising:

attaching a layer of electrically insulating material 20 (a resin, col. 4, lines 1-12,) adjacent a first side of magnetic memory array 12 in the memory module, fig. 1-4, col. 2, lines 40-67,

attaching a layer of permeable metal 22 or 33 or 55 over the insulating material (resin) 20 of first side of the magnetic memory array 12 (layer 22 can be formed over top surface 18 of layer 20, col. 3, lines 57-63), col. 3, lines 1-67, fig. 3-4

attaching a layer of permeable metal 55 or 22 over the insulating material 20 of second side of the magnetic memory array 12,

permeable metal magnetic shield is a soft magnetic material of iron and nickel alloy, para. 4, 30.

The difference between the reference(s) and the claims are as follows: Tuttle et al. '040 teaches forming a magnetic shield over a MRAM module but does not teaching using sputtering method and annealing in the rotating magnetic field. However, Shimada et al. teaches at col. 4, lines 23-39, col. 5, lines 30-45 that sputtering a magnetic shield 16 material and annealing under rotating magnetic field to reduce the anisotropic magnetic field to isotropic magnetic field.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above references' teachings by sputtering a magnetic shield material and annealing under rotating magnetic field as taught by Shimada et al. so that he anisotropic magnetic field is changed to isotropic magnetic field.

Claims 14-18, 20, 25-27, 29 rejected under 35 U.S.C 103 as being unpatentable over Tuttle '040 as applied to claims 13, 19-20, 23-24, 28, 30-38 above, and further in view of Shimada et al. 4,641,213 and Durcan et al. 2002/0160541.

The difference between the references applied above and the instant claim(s) is: Tuttle et al. '040 teaches forming a magnetic shield over a MRAM module but does not teaching using sputtering method and annealing in the rotating magnetic field and the structure of MRAM. However, Shimada et al. teaches at col. 4, lines 23-39, col. 5, lines 30-45 that sputtering a magnetic shield 16 material and annealing under rotating magnetic field to reduce the anisotropic magnetic field to isotropic magnetic field. And, Durcan et al. teaches at para. 51, a pinned layer 91, a sensor layer 92. And, specific permeability of a permeable metal as claimed are taken to be obvious since these are variables of art recognized importance which are subject to routine experimentation and optimization and discovery of an optimum value for a known process is obvious. In re Aller, 105 USPQ 233 (CCPA 1955). And, even if applicants' modification results in great improvement and utility over the prior art, it may still not be patentable if the modification was within the capabilities of one skilled in the art, In Re Sola 25 USPQ 433.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above references' teachings by sputtering a magnetic shield material and annealing under rotating magnetic field and using a MRAM having a pinned layer, sense layer and a dielectric layer as taught by Shimada et al. and Durcan so that he anisotropic magnetic field is changed to isotropic magnetic field.

Claims 14-18, 20, 25-27, 29 rejected under 35 U.S.C 103 as being unpatentable over Kitada as applied to claims 13, 19-20, 23-24, 28, 30-38 above, and further in view of Shimada et al. 4,641,213 and Durcan et al. 2002/0160541.

The difference between the references applied above and the instant claim(s) is: Kitada et al. teaches forming a magnetic shield over a MRAM module but does not teaching using sputtering method and annealing in the rotating magnetic field and the structure of MRAM. However, Shimada et al. teaches at col. 4, lines 23-39, col. 5, lines 30-45 that sputtering a magnetic shield 16 material and annealing under rotating magnetic field to reduce the anisotropic magnetic field to isotropic magnetic field. And, Durcan et al. teaches at para. 51, a pinned layer 91, a sensor layer 92. And, specific permeability of a permeable metal as claimed are taken to be obvious since these are variables of art recognized importance which are subject to routine experimentation and optimization and discovery of an optimum value for a known process is obvious. In re Aller, 105 USPQ 233 (CCPA 1955). And, even if applicants' modification results in great improvement and utility over the prior art, it may still not be patentable if the modification was within the capabilities of one skilled in the art, In Re Sola 25 USPQ 433.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above references' teachings by sputtering a magnetic shield material and annealing under rotating magnetic field and using a MRAM having a pinned layer, sense layer and a dielectric layer as taught by Shimada et al. and Durcan so that he anisotropic magnetic field is changed to isotropic magnetic field.

Claims 14-18, 20, 25-27, 28, 29 rejected under 35 U.S.C 103 as being unpatentable over Tuttle '058 as applied to claims 13, 19, 23-24, 30-38 above, and further in view of Shimada et al. 4,641,213 and Durcan et al. 2002/0160541.

The difference between the references applied above and the instant claim(s) is: Tuttle '058 teaches forming a magnetic shield over a MRAM module but does not teaching using sputtering method and annealing in the rotating magnetic field and the structure of MRAM. However, Shimada et al. teaches at col. 4, lines 23-39, col. 5, lines 30-45 that sputtering a magnetic shield 16 material and annealing under rotating magnetic field to reduce the anisotropic magnetic field to isotropic magnetic field. And, Durcan et al. teaches at para. 51, a pinned layer 91, a sensor layer 92. And, specific permeability of a permeable metal as claimed are taken to be obvious since these are variables of art recognized importance which are subject to routine experimentation and optimization and discovery of an optimum value for a known process is obvious. In re Aller, 105 USPQ 233 (CCPA 1955). And, even if applicants' modification results in great improvement and utility over the prior art, it may still not be patentable if the modification was within the capabilities of one skilled in the art, In Re Sola 25 USPQ 433.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above references' teachings by sputtering a magnetic shield material and annealing under rotating magnetic field and using a MRAM having a pinned layer, sense layer and a dielectric layer as taught by Shimada et al. and Durcan so that he anisotropic magnetic field is changed to isotropic magnetic field.

Conclusions

Applicant's arguments filed Dec. 27, 2005have been fully considered but they are not persuasive. Because Tuttle clearly teaches at col. 4, lines 1-12, col. 3, lines 57-67, figs. 3-4, printed circuit board 20 is formed from resin (an insulating layer). Magnetic shielding layer 22 can be formed over the top surface 18 of printed circuit board 20 and magnetic shielding layer 55 can be formed on the back of printed circuit board. Magnetic shielding layers 22, 55 are positioned within the module, see figs. 3-4. Newly cited reference Kitada et al. teaches Magnetic shielding layers 4, 11 are positioned within the module as set forth above. Newly cited reference Tuttle teaches Magnetic shielding layers are positioned within the module as set forth above.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry of a general nature or clerical matters or relating to the status of this application or proceeding should be directed to the customer service whose telephone number is (703) 308-4357.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. Jey Tsai whose telephone number is (571) 272-1684. The examiner can normally be reached on from 7:00 Am to 4:00 Pm., Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael S. Lebentritt can be reached on (571) 272-1873.

The fax phone number for this Group is (703) 872-9306.

hjt

3/2/2006

H. Jey Tsai
Primary Examiner
Patent Examining Group 2800